MOVIETONE BULLETIN

Published in the interest of the Movietone Projectionist by

FOX CASE CORPORATION

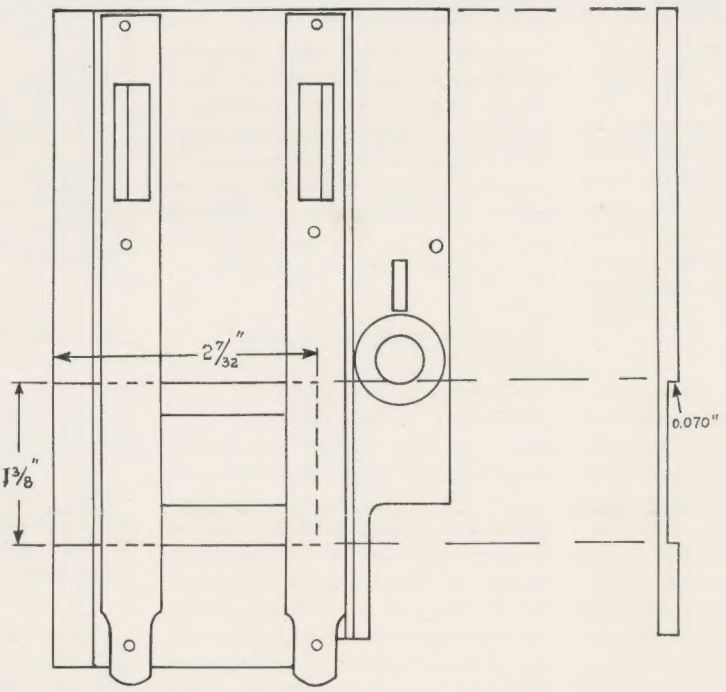
460 WEST 54TH ST., NEW YORK

VOLUME 1, NO. 27 — 428 — JULY 7, 1928

Movietone of Silent Picture Dimensions

WE are advised that some exhibitors and projectionists prefer that movietone have the same screen image width and height as the silent pictures, rather than the regular movietone dimensions.

Well, why not? It is not in the least difficult. In fact right now the Roxy theatre, New York City, is projecting its silent pictures and its movietone at precisely the same dimensions. Roxy did not fancy the idea of having the movietone and silent pictures of the same height but of different width, so Arthur Smith, his Chief Projectionist, got himself all nice and busy and within a few days both pictures were the same size and the same dimensions. Roxy likes it! So, I think, would you. It is quite simple, especially if you have three projectors and use one of them exclusively for movietone. If you have but two, it can be done just the same, only there is a slight added complication.



DESIGNED BY ARTHUR J. SMITH.

After examining the plan worked out by Chief Projectionist Arthur Smith, I was so impressed with its practicability that I immediately took the matter up with Mr. Michel, General Manager Simplex Division International Projector Corporation, and they are now working on a special aperture, which will be available very soon. I also suggested to Mr. Michel that a special lens mount be designed so that the projection lens might be instantly detached or attached, without the formality of screwing it into or out of the mount. I understand that this also will be done. If it is, then the change from silent pictures to movietone, both of the same size and dimensions as to screen image, should not consume to exceed five, or at most ten seconds.

Here is the plan as worked out by Chief Projectionist Arthur Smith of the Roxy Theatre. Take the accompanying diagram, together with a Simplex aperture plate to any competent machinist and have him cut the slot in the plate as indicated in diagram. Mark you well, however, this is not a job for a blacksmith, though any competent machinist can do it.

Having finished the slot, let him make, from any suitable sheet material, a metal slide to fit snugly into the slot. It must fit closely, but not bind. This slide, in its finished form will be an aperture mask. In fact, it will form the actual projector aperture opening. It may be made long enough to contain an opening at either end, one for movietone and one for silent pictures.

Note: I overlooked one point. The aperture mask Mr. Smith showed me had both the regular standard silent picture and the movietone opening, so spaced that if the movietone mask were in place it was only necessary to remove it, reverse it (turn it, end for end) and shove it clear in, whereupon the regular silent picture aperture would be in its proper place. I forgot to ask him whether cutting the plate slot destroyed the regular aperture, and to ascertain that point now would cause a delay in publication. It is not especially important anyhow. If the regular aperture is not injured by cutting the slot in the aperture plate, I see no reason why the slide should contain two openings, though it does no harm to have them. In the following I will disregard the regular opening.

Having finished the slot and slide, next proceed to cut, in one end of it, at such distance from the end that the opening will be located sidewise exactly where the movietone aperture was located, an opening of exactly the same width as the regular movietone aperture, **but only .614 of an inch in height.** This will give you an opening of precisely the same relative width and height as the regular silent picture aperture opening, which is .906 of an inch wide by .6795 of an inch high.

With this aperture opening in place, you will have movietone exactly the same proportions, as to width and height, as the silent pictures, but the screen image (picture) will be smaller, of course, hence will not fill your silent picture screen. You have now but to secure a projection lens of sufficiently shorter focal length to enlarge the picture to fill the screen, and all is well. To secure such a lens, provide the lens maker with the following data: (a) Exact measurements of aperture, both as to its height and width. (b) Exact distance lens to screen. (c) Exact width and height of picture on screen.

Note: If the projection angle is such that you have had to file the silent picture aperture sides to parallel the sides of the screen image, you will of course have to do the same thing with the new movietone aperture.

This plan eliminates just a wee bit of both the top and bottom of the film photograph, true, but what of it? It is very seldom indeed, that it would make any appreciable difference. In fact, I doubt if it ever would. Roxy uses the plan and approves of it, and if it is all right in that great theatre, surely it should be all right in other theatres. The only bad feature is the necessity for changing the projection lens when it must be screwed into and out of the mount, but as I said, I have no doubt but that, too, will be unnecessary very soon. Of course, if you have a special projector for movietone, there will be no lens changing at all.

In closing, permit me to add that this plan makes possible the use of many new and novel effects in aperture masks. Chief Projectionist Smith showed me at least two dozen masks he had made and used. There were leaf shaped ones, heart shaped ones, et cetera. One might slip in a leaf shaped aperture mask when showing a forest scenic. Or when the hero grabs the heroine and smears his countenance all over hers at the end, a heart shaped mask might be used—maybe.

Duty Well Done

When one has done his duty well; when he has kept his equipment in the very best possible condition he is able to with the materials supplied; when he has projected a sparkling, steady, beautiful picture before his audiences; when he has projected a great singer or one of the Leaders of Earth before an audience, and made him or her talk just as naturally and appear just as naturally as though they were present in person, and the audience applauds, or the manager slaps your back and says: "Good work, old timer, good work!" Gosh, but **Ain't It The Grand And Glorious Feeling!**

If you are looking for a secret of success, take Biblical advice and learn from the ant. The first thing an ant pulls for is the sugarbowl.

FLICKERS

Necessity is the mother of invention. Likewise the sister, cousin, aunt or what have you. They were making a picture with movietone accompaniment. In one scene there was a battle skirmish and they were ready to shoot it when they discovered to their dismay they didn't have anything with which to simulate machine gun fire. For once the prop man had overlooked something. A hurried consultation was held, and brains were racked and heads were scratched and everybody made suggestions at once. Finally they solved the problem. They called in one of the stenographers from the office and had her pop her gum several times in quick succession. The illusion was perfect.

We were reading about a moving picture machine to take shots of the workings of the stomach. Tabloid reporters ought to have one to get the inside dope.

Generally speaking, there are two gates in which the projectionist is supremely interested. The one his girl gives him and the sound gate.

If things get all out of tune and the machinery starts to acting queer and you don't know what to do, just think of the weather man. He hardly ever sees his way clear.

Envy the lucky mechanism of the projecting apparatus. It does its best work when well-oiled. Not many of us can do that.

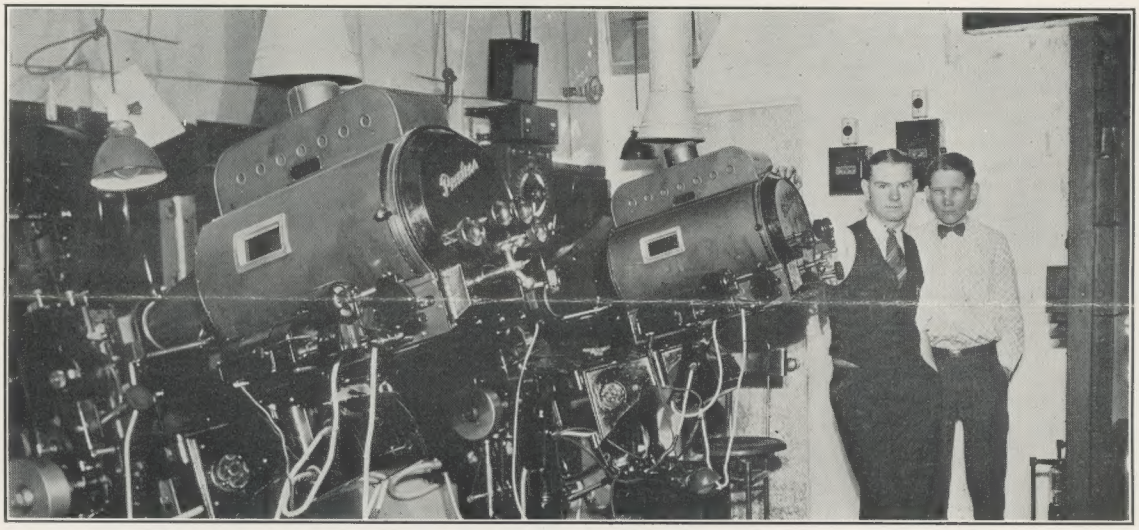
Pass clean film along to the next man. Give him a show and he'll give the audience a show.

Talk is generally cheap. But movietone talk is never cheap unless careless projecting cheapens it.

A Scotchman ought to make a good marathon dancer. You never see one looking spent.

It is bad luck to break a mirror. Especially if you are a woman and don't have another one handy.

Cornhusker Realm Adds Pair of Movietone Projectionist Faces.



The above projectionist duo present movietone to the audiences of the Capitol Theatre, Grand Island, Neb.,—out where the coyotes howl hosannas and the prairie dogs bark approval. Left to right: Roy M. Brewer and Richard J. Bomgardner.

Movietone Instills Respect

HERE is an excerpt from a letter just received. I quote it to show how far reaching is the effect of movietone upon the minds of the men projecting it.

"It is hard to express myself adequately upon sound in synchronism with motion pictures, and its effect upon me and upon my attitude toward the work of projection. I have an entirely different opinion of and reaction toward projection since sound has been added.

"I have been a motion picture projectionist for eighteen years, and have found myself to be gradually loosing interest in the work. This had proceeded to the point where I was seriously considering giving it up and going into some other field of work.

"Try and get me to do that now! It was not so many months ago when if any one bothered to speak to me about my work, it was to say something like this: 'Hey! Whatcha runnin' this week?'

"That has all changed. Now it is, 'Good morning, Mr.——! Have you laid out the schedule for the show?'

"I have had the title of respect applied to me, been addressed as Mr.———, more often since I've been projecting movietone than in all the preceding seventeen years of my projection experience put together.

"Getting fussed up about being called Mister may seem trivial, or even a bit childish to you, Mr. Richardson, but to me it really means something, and that something is that they are beginning to have some respect, if not for me, then for the work I am doing. And let me tell you, brother Richardson, that the man who does not care to have his work respected is no true motion picture projectionist. Moreover the men who, when we get right down to brass tacks, don't care whether others respect them or not, are mighty few and pretty far between, regardless of how much they may sneer at such things."

I quoted this letter, using the man's name, and wrote asking his consent to publication. He replied to the effect that the letter was not intended for publication and that when once before he had written, he was "razzed" by the other men. He, however, added authorization for publication if I thought such publication would serve any good purpose in helping things along. He would, he said: "Stand for the razzing if I thought publication of his name would help."

Think that over, men. This bulletin is given you free of all cost, and right willingly. The only thing we have asked in return is that projectionists write to it when they think they have something of interest or value. Do you yourselves think "razzing" a man for complying with our request is quite the right thing to do? Think it over.

We saw where a wild driver hit three automobiles. He must have thought he was a billiard game.

Loss of Light

THIS letter comes from a movietone projectionist in the Northeast: "Dear Mr. Richardson: When this theatre installed movietone we were just plain scared stiff. We certainly did wish we had studied more, but it then was too late. We got through though, and now that the scare has worn off, find our interest in the work of projection greatly increased. The Bulletin is great. It has helped us a lot.

"Yesterday an argument arose between myself, my partner and two projectionists who came in to see the apparatus. It was concerning the amount of light lost between the lamp and the screen. We remained half an hour after the show was out, arguing. Finally it was decided to put it up to you and accept your decision in the matter. The question is how much of the light is lost between the lamp and the screen. Will you decide the matter? Oh yes. We were discussing the straight arc and condenser system."

Almost the exact question came in the same mail from a local union in Lawton, Oklahoma, so you see great minds run together. I cannot tell you precisely what the necessary losses are, because to a considerable extent it depends upon local conditions. However, I can point out to you the various losses and where they occur.

Any unnecessary distance between the arc crater (which is the light source, not the "lamp"—use correct nomenclature, brother) means serious loss of light. See Fig. 36H, page 162, Vol. 1, Bluebook of Projection or same Figure, same page, 4th edition. The light loss here may be very great indeed, as you will observe by studying the drawing referred to.

Another source of very heavy loss of light is unnecessary spot diameter. This is graphically illustrated in Fig. 41, page 173 of either fifth or fourth edition Bluebook of Projection. Of course you well know that the rotating shutter cuts off approximately 50 per cent. of the total light reaching its plane. This is unavoidable, though it may be controlled to some extent by the projectionist.

If the condenser lenses be spaced further apart than just sufficient to avoid physical contact of the lenses, there will be some unnecessary loss of light, since the collector lens sends forward to the converging lens a diverging beam of light; see page 170 of editions of the Bluebook of Projection before referred to. I refer to these books because you there will find the matter fully explained and illustrated.

If the projection lens has insufficient diameter to admit the entire light beam, then there will not only be loss of light, but also uneveness of screen illumination will be set up.

All these various elements are under the control of the projectionist in so far as has to do with waste of light. Great waste, with resultant high inefficiency in operation may result from wrong adjustment of any one of the elements named, or a slight error in each may, in the aggregate, cause very heavy loss.

In addition to these various possibilities for loss, there is a further one at each surface the light encounters, either in passing from air to glass or vice versa. This loss is (see the Professors Gage, page 141, Vol. 1, the Bluebook of Projection) from 4 to 5 per cent. at each such surface, if the glass be well polished, as all projector optical train lenses now are, and perfectly clean. If the lenses be dirty this loss may be very much greater

In a projector optical train using a 2-lens condenser, there are six surfaces in all at which light must pass from air to glass or from glass to air, so if all surfaces be clean, the loss will total at least 24 per cent. of the total light, to which a small loss must be added because of the slight light absorption in passing through the glass itself. This latter will probably not exceed a total of more than two per cent. for the entire optical train.

I believe we may safely assume that not to exceed five (5) per cent. of the total light emanating from the crater of the straight electric arc reaches the screen, and that in ordinary practice this is considerably diminished. It has been placed, by competent authorities, as low as three per cent. I believe, however, that when it sinks as low as that, there is high inefficiency somewhere in the optical train.

I am glad this question has arisen because, whereas a loss of one per cent. of the total light emanating from the light source might be a very small matter, still when only a possible five per cent. is reaching the screen, if one per cent. of that amount be removed by inefficient management, it becomes serious indeed.

Intimate knowledge of the various sources of possible light loss is highly essential to efficient work on the part of the projectionist because when he does understand, it becomes a relatively simple matter to control and eliminate them. Without competent knowledge the losses may be very great indeed, and there should be none whatever, because in all conscience under the best possible conditions they are great enough.

Watch Your Sprockets

Movietone projectionists will do well to watch their sprockets closely, more especially the sound sprocket. Just a wee bit of dirt adhering to the intermittent sprocket may and probably will cause the screen image to move up and down once to every revolution of the intermittent sprocket. A bit of dirt adhering to the face of the rim of the sound sprocket will set up trouble with the sound, since every time that sprocket revolves the film will be slightly displaced.

Moral: Keep every sprocket perfectly clean, but especially the sound and intermittent sprockets. As I have before advised you, get a ten cent tooth brush, or some other small stiff bristled brush, and hang it from a string in convenient location. Or I think you may lay it in the base of the mechanism. Anyhow, have it real handy and **use it at least on the sound sprocket every time you thread.**

Anybody can make a mistake. But only a fool can't figure out a different way to make it the next time.

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FOX CASE CORPORATION

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VOLUME I, No. 28 — 428 — JULY 14, 1928

The Fader

MOVIETONE projectionists must keep constantly in mind the fact that regulating the volume of sound is one of their most important functions. If they err in the matter of sound amplification, the result is to detract from the effectiveness of the illusion and to make the performance much less valuable as a source of entertainment.

It has come to our attention that some projectionists make the mistake of using too much volume. They cause a speaker, for example, to speak with unnatural loudness, which you will, I am sure, agree with me, is not good. We are accustomed to hear a certain voice volume under any given condition, in real life. Automatically we expect to hear that same volume under the same condition, in movietone, and unless we do hear it about that way the effect of unnaturalness is set up.

Of course we fully realize the impossibility of regulating sound for exact naturalness simultaneously in all parts of a large theatre; also volume requirement will vary with varying acoustic properties of different auditoriums. And it is in these matters especially that careful, painstaking work on the part of the projectionist is very valuable.

In small auditoriums sound volume may be regulated almost to perfection in the matter of naturalness. In auditoriums having great depth it is more difficult; sound, of course, cannot be regulated to fit both front and back perfectly.

To get the best possible results the production should and must be cued for every theatre. This involves a running of the same before an audience is assembled, with the manager or an assistant in the auditorium to direct. The projectionist then marks the position of his fader at each point, on a cue sheet.

That, gentlemen, is the right way to do it. It is the only right way.

The real purpose of this article, however, is to direct your attention to the fact that too much volume is **bad**, and to ask you to be very careful in this respect.

Brotherly Love Realm Contributes Photos

When William Penn did his famous treaty stuff with the Indians there wasn't any movietone to record it. But movietone is there now, and going strong, according to the above twosome of the State Theatre, Uniontown, Pa. They are: Mr. W. H. Bierer, (above), and Mr. G. R. Miller.

The Finger Test

SOME projectionists do not make the best possible test to ascertain whether or not the sound is percolating properly in the amplifier equipment. Instead of making the more reliable "finger test" they tap the first tube in the 8-B panel, listening for the microphonic tube noise from the horns.

A very much better way is to move the finger up and down through the light beam where it enters the photo-cell at the projector. No film should be in when the test is made and the sound gate should be out of the way.

The tubes must of course all be switched on, and the fader turned part of the way up to get sound from the horns. This test not only checks up from the main amplifier forward to the horn, but also it checks the photo-cell, the sound attachment and the fader as well.

Tapping the first tube will sometimes apparently show everything O. K., yet the sound will not "perk" through by reason of some fault back of the 8-B. The finger test is conclusive because it really checks through on the whole system. We therefore cannot too strongly advise you to use it in preference to any other, except with the film itself.

An inadequate test is in one way worse than no test at all because it may deceive you. You find something is wrong and because you have placed dependence upon a test which really only has included a part of the system, you don't know what to do. To use the finger test or a reel of film, is the safest and best rule.

FILE THIS

That Rewinder

HAVE you lined your rewinder perfectly and then bolted it down solidly so that it cannot possibly again get out of line? A rewinder just a little bit out of line will, as you know, commit an outrage upon the films every time the reels on it rotate. This is the more especially true if the reels themselves are the least bit out of true, but it is true even if the reels be perfect.

To test your rewinder, unwind sufficient film from any reel to reach clear across the rewinder. Put two empty reels on the rewinder, first making sure that they are perfectly true. A crooked reel would be very misleading in such a test.

Now stretch the film through the empty reels, letting it lie on the hubs thereof or not as you please. Have your helper hold one end, or lay something as high as the reel hubs back of one of the reels and lay the film end on it right up close to the reel rim and exactly central between the two sides of the rim. Then stretch the film through the reels, and if it does not touch either reel and is central between all reel rims, your rewinder is in exact line. If it is not, then do whatever is necessary to remedy the fault.

Caution: While the film is stretched it is best to revolve both reels, just on the chance that one of them may be a bit out of true.

When you have the two elements exactly in line, or so that the reels mounted upon them are exactly in line, rather, I repeat, bolt them down **solid**, so they cannot possibly move.

Stop and think a moment. If the film rubs on the reel as it (the reel) revolves, the edge of the film is tilted up, and of course an unnecessary strain is put on the film edge, which certainly is bent or buckled right along through the line of sprocket holes, and surely you will agree that that is at least not very good for them.

Far worse than that, though, (and "that" is plenty bad enough), if the bending is sufficient and the sound band is on that side and the reel is rubbing on the emulsion side, **the sound band will certainly be injured** and perhaps even ruined. That is pretty self evident, is it not? All right! If you have not examined that rewinder recently and tested it for line, **do it now!**

Drop in Voltage

FROM New England comes this letter: "Dear Mr. Richardson: I'm getting along just fine with movietone. The Bulletin has been a lot of help to me. I have one trouble, though, and want your opinion to show to our manager, who thinks I am, in some mysterious way, to blame.

"The voltage fluctuates. In the afternoon it is not so bad, though it drops perceptibly every few minutes and comes up again in a minute or so. I have told the manager it is some heavy motors, probably an elevator, on our lines, but he says I'm just trying to find an excuse for not finding what the fault really is in my own equipment. In the evening the voltage is low, and the fluctuations due to the motor (I think it is) are very bad. Will you please advise me?"

As to the motor, you are of course, entirely right. From the description it surely is caused by an elevator. Possibly one in an apartment house. In the evening, either your lines or a transformer supplying them, or both, are overloaded, and of course that would, as you say, make the fluctuations caused by the motor much worse.

Your manager should take the matter up with the power company, entering vigorous protest. In the afternoon, when the motors are running, they overload either the lines or transformer, (I assume the supply to be A C), which presumably are not overloaded when the motors are idle. It is **not** up to you, but to the manager. He is entitled to full voltage at all times, and the Power Company in effect contracts to supply it. They should install larger lines, transformer or whatever it is that is overloaded.

A magician is not the only one who produces things you never saw before. Look what the laundry sends back.

FLICKERS

Out on the lot they were preparing for a Wild West scene, depicting a battle with Indians. Arms and ammunition were piled everywhere.

"Why all the artillery?" cooed Cora the Cute.

"That's to shoot the picture with," informed Dumb Dolly.

Be thankful for small favors. Do you know what the tramp said when the lady gave him quail on toast? He said: "A bird in the handout is worth two in the bushes."

It won't be long till crews are in the Orient taking news shots for movietone. Projectionists are warned to brush up on their Chinese so they can be sure the audience is getting every word correctly.

Don't get nervous at the prospect of projecting movietone. If you must have a little stage fright go get a blonde or a brunette.

Circumstances alter cases. It makes a lot of difference if the ham is kosher, but it doesn't help the ham actor much.

There aren't any 777 ways of splicing film correctly. Variety is not the splice of life.

Movietone Mike says his girl is librarian in a laundry. She takes care of the sheet music.

The janitor of the theatre is a good radio fan. He picks up a lot of programs.

Always be careful what you call anybody. You might miss your calling.

Film censors are persons whose duty it is to find out who put the sin in cinema.

Silence is golden—but not when it is movietone faded into silence.

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VOLUME I, No. 29 JULY 21, 1928

The Optical Train

MOVIETONE projectionists will do well to remember that motion picture projection is about nine tenths an optical problem. It is the controlling of the action of a powerful light beam by means of a train of lenses, or by means of a mirror and train of lenses.

The selection of the various elements of a projector optical train is a thing to be approached only with adequate, accurate knowledge and great care. Much faulty projection is due to wrongly selected projector optical train elements, or to their faulty adjustment with relation to each other.

However, even though all optical train elements be correctly selected and adjusted, it still must be remembered that there will be a heavy light loss if each of the various elements be not kept scrupulously clean.

If you have a Fifth Edition of the Bluebook of Projection—and all movietone projectionists should have one—turn to page 141, Volume 1, and you will discover that the Professors Gage, eminent authorities on such matters, place the loss of light by reflection from both polished surfaces of a lens (meaning both when the light enters and leaves the lens) at from 4 to 5 per cent., provided the surfaces be perfectly clean and well polished. If the surfaces be not well polished and (or) dirty, then the loss per surface may be as much as fifteen per cent. Some authorities place the loss much higher, with a minimum of six per cent. per surface for clean, well polished surfaces.

More Projectionists of the Land of Penn

Mr. J. C. Ansell, (above), and Mr. W. P. Craig. They are projectionists in the State Theatre, Uniontown, Pa. All these boys from the brotherly-love domain are evidence that not everybody out there digs coal or makes rails for choo-choo cars to run on.

You therefore may readily see the importance of keeping the lens surfaces and the mirror surface scrupulously clean. Condenser lenses should be cleaned every day. The outer surfaces of the projection lens and the port glass, if one there be, also should be cleaned daily, regardless of whether or no they look clean.

To clean lenses effectively I would recommend a solution of one half each of denatured or wood alcohol and water. Select a perfectly clean, soft cloth, such as, for example, an old cotton handkerchief, dampen it with the solution, wipe the surface of the lens and polish quickly with another similar, dry cloth—with a soft-finish paper napkin or with a wad of high grade, soft-finish toilet paper. The latter is especially good, because you can hang a roll of it up convenient for use. If the lens be entirely free from oil and cold, an effective method for cleaning is to breathe upon it and polish quickly.

Warning: After cleaning a lens surface be very, very certain not to let your finger tip touch its surface. A finger mark faint enough to be entirely invisible as one looks through a lens, may and probably will injure the definition of the screen image seriously, provided it be on the surface of one of the projection lens elements.

What's that? You know all that? Well, probably you do, but just the same I find a surprising number of not-too-clean lenses in projector optical trains; also lenses with faint finger tip marks on them. So be careful! Be very certain **your** projector optical train is exactly what it should be, both as to the selection of its various elements and their adjustment one to the other, and with regard to cleanliness. **Clean the condensers or (and) mirrors, the outer surfaces of the projection lenses and the port cover glasses before the first show starts every day.** It is the only right way.

It may be all right not to let your left hand know what your right hand is doing, except, of course, when you are turning the fader at change-over.

Use Good Reels

FROM a western projectionist comes this letter: "Dear Mr. Richardson: Won't you give me a bit of help? I want you to write my manager (name supplied) and tell him we should have reels in good condition to use in movietone projection. I have asked him to get a set of welded wire reels, but he has refused. Says the reels the film comes on are plenty good enough."

As requested I wrote his manager a personal letter, but for the benefit of other projectionists and managers I think it best to print the letter also, omitting the name and location.

"My dear Mr. Manager: May I direct your attention to the fact that reels used to ship films should never be used for projection purposes? In shipment, film packages are often subject to rough handling and since they contain considerable weight you will readily understand the possibility or even the probability of reel sides being more or less bent out of shape.

"This might or might not do considerable harm, especially to sound films, in the course of projection, but in rewinding it is almost certain to. In most theatre projection rooms films are rewound at relatively high speed, which is in itself very, very poor practice, and when a bent reel revolves it is almost a certainty its side will strike the edge of the film at every revolution, bending it up or down, more or less, which effect may be greatly aggravated if the rewinder elements be in any degree out of line with each other. This latter, incidentally, is the case in a surprising number of cases.

"Now even though the film carry silent pictures, the commonest kind of common sense tells us that this will be injurious, and may do very real damage to the sprocket hole track on one side or the other, or both sides if both of the reel sides happen to be bent toward each other at any point, as often is the case.

"If the film carry sound, though, and its edge be bent up sufficiently far so that the metal rubs across the sound band, as well may in the case, it requires no stretch of imagination to see what that will do. Just one such abuse and it is not in the least impossible that a whole reel of sound film might be put out of commission.

"It therefore is well that theatre managers equip their projection room with a complete set of high grade welded wire reels to use in projection, even though sound pictures are not used. If they are, then such procedure is all the more important. What would be paid for just one ruined reel of film would more than buy all the reels necessary. In the past it is almost a certainty that many, many reels of film have been damaged in your theatre, and badly damaged, too, by the use of shipping reels for projection, though it is true you may have been fortunate enough to escape payment for the harm done."

Watch Your Sound Lamps

Movietone projectionists should make it their regular, invariable practice to examine the sound tubes every day. Don't do the "I-guess-they're-all-right" stunt. If you do you're not filling your job. You are not acting honestly with the exhibitor, because you're neglecting an important function he pays you good money to perform. "I guess" leads eventually to trouble, not sometimes, but always.

Don't "guess"! **Know** that your sound tubes are all right, which means that there is neither any trace of discoloration on the interior of the globes, or any sagged filament.

Watch your sound gates religiously. Be certain they are perfectly clean before you thread in a film, and the only way to know that is to make an adequate examination. A cleaning in time saves many a damaged or ruined sound band.

FLICKERS

If you're looking for the low-down on history, this is the inside dope on how Joshua made the sun stand still. The fact is it was a cinch. At that critical moment when he wanted the sun to stand still the first movietone was flashed on the screen. Joshua just pointed to it and exclaimed: "Look!" The sun looked and was so awe-stricken it stopped in its tracks and stood there gaping for hours.

One way to find out who is boss is to start something. Another good way is to stop something—work, for instance.

Be willing to learn. The only thing that profits by being set in its ways is cement.

If your neck and shoulders are all sunburned, don't do your work too well. The manager is apt to notice it and come around and slap you on the back.

Don't get the idea you're worthless and of no earthly use to anybody. Everything counts in this world but a broken adding machine.

Be patient—great things have small beginnings. When Columbus landed on this side he knelt down and kissed the ground. That was the first kiss planted in America. And now look what the damn thing has grown into.

They were shooting a few final scattered scenes in the studio preparatory to assembling the picture. They had to have a slow motion picture of a man walking about in an interior scene. The cameraman discovered his batteries were down and he couldn't possibly get the necessary speed to take a slow movie. They were in a hurry. So they took a shot of one of the office boys going about his regular duties. It was the most realistic shot in the whole film.

MOVIETONE BULLETIN

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Changing the Sound Lamp

CHANGING the sound lamp at proper intervals is of the utmost importance. It is an insurance of a high standard of sound reproduction. That is well known, but the important question is how often should the lamps be changed?

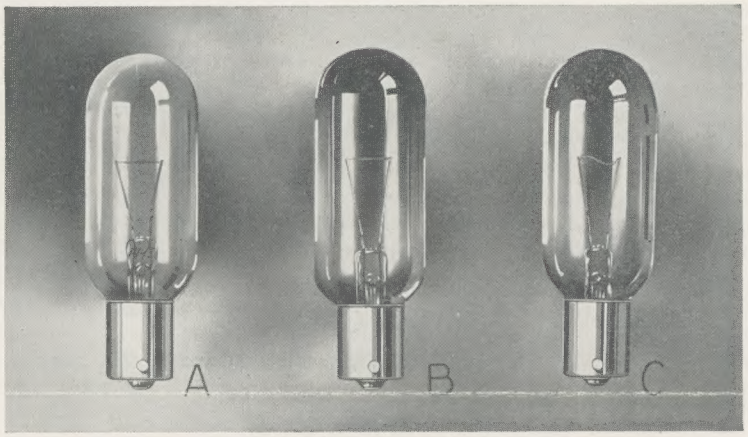
Sorry, gentlemen, but that is a question which cannot be answered, if it be asked in that form. There is too much dependent upon the individual lamp. Some will operate satisfactorily over a longer period than others.

About twice a week the projectionist should carefully examine each lamp, noting its condition carefully. This may be accomplished by removing the lamp holder from its support and holding it, the lamp, up to the light. If the glass is perfectly clear and clean looking, the lamp is O. K. If, however, there is the slightest indication of discoloration of the glass—a darkening of its interior surface—the lamp should be discarded and a new one installed.

Of course the projectionist will or may feel an urge to use the slightly discolored lamp just a bit longer, and thus get more service from it and reduce the "overhead" expense, but that is far from being either good practice or true economy. It is in fact very bad procedure.

As soon as the lamp globe commences to discolor the amount of light entering the photo-electric cell is largely decreased. The result of this is an immediate and serious loss in the quantity of reproduced sound and its quality as well.

— Good and Bad Lamp Types —



NOTE:—Lamp "A" is in good condition, lamp "B" is badly blackened and lamp "C" has a badly sagging filament.

Discoloration of the walls of the globe, either at the top or the sides of a lamp, is proof positive that it has passed the peak of its efficiency and that it should be immediately replaced with a new lamp.

In the illustration we see a perfect lamp at "A." There is neither discoloration of the lamp walls or sagging of the lamp filament. At "B" we see a lamp which has been used much too long. It is badly discolored. Undoubtedly its continued use both reduced the sound volume and injured its quality. "C" shows a lamp with two serious faults. It is discolored and instead of being straight, its filament is sagged. If a lamp filament sags at all, discard it immediately, even though there be no discoloration. You cannot secure a straight filament image if the filament itself be crooked.

It is not wise to "save" a small sum by using a sound lamp which is discolored, when you can only do so at the risk of injury to sound results. Such "economy" may be very costly in the end.

Daily careful examination of sound lamps is no great task and is an insurance against trouble and

injury to results. It is one of the duties of the movietone projectionist. See that you attend to it!

Film Pick-up Amplifier

THIS week two projectionists, one in Maine and one in Texas, have asked for the same information. It is this: "Will you explain just what the purpose of the film pick-up amplifier is? By this I mean the one attached to the projector."

If you would study your instruction book I think you would understand, though perhaps a bit of amplification on what is therein set forth under "Film Pick-Up Amplifier" would not come amiss.

The film pick-up amplifier, which is the one asked about, is mounted on the projector at the front of the film reproduction attachment. Its office is to amplify the electric impulses or current which comes from the photo-electric cell. It is what might be termed the first stage of amplification as between the film and the horn.

The reason for amplification at this point is that the impulses coming from the photo-electric cell are weak, and if the first stage of amplification were at the main amplifier, which is usually some distance from the projector, there would be likelihood of induced currents being picked up from AC currents, switches, commutators, etc. This would occur on account of the circuit from the photo-electric cell, over to the main amplifier, acting like a radio antenna in picking up any electrical disturbances in the neighborhood. All circuits act in this manner to some extent unless very special precautions are taken. These interference currents would then be amplified along with the sound current from the photo-electric cell. The result would be noise in the sound projector horns. To avoid this the sound impulses are amplified at the projector to a degree sufficient to the make the interference currents insignificant by comparison; then the further amplification given by the main amplifier, while sufficient to enable the sound current to operate the sound projectors, does not have to be so great as to cause the interference effects to be audible.

There are three tubes and three stages of amplification. Each of the tubes is a Western Electric 239-A vacuum tube. The tubes are mounted on a spring suspension, as you are told in the instruction book, in order that they be not affected by the vibration of the projector.

On the door of the compartment housing the tubes is mounted a control for regulating the current passing through the tube filaments and a meter which measures this current.

I cannot too strongly urge that you study the instruction book. If you come across anything therein which is not clear to you, advise me and through the Bulletin the matter will be made clear to you.

Watch the Lights!

Remember, men, that the auditorium lighting has much to do with your screen image—its excellence I mean, of course. Especially is this true of the lights and the decorations near the screen.

If you are a real motion picture projectionist you will be interested, and deeply interested, too, in anything which affects the beauty of the picture on the screen. You will therefore study the matter of auditorium lighting, screen borders and surroundings. You will put yourself in position to talk to your manager intelligently and authoritatively upon such subjects. By so doing you will increase his respect for you and your work.

It is just this difference which marks the dividing line between the motion picture projectionist and the machine operator or attendant. The former studies his business and treats it as a profession. He respects his work. He is interested in it. He does not regard his work as merely a necessary nuisance and a thing to make a living with. He regards the operation of the projector (machine) as merely one relatively small item in motion picture projection, the really big problems of which are purely optical.

Which are you, brother? A "machine operator" or a motion picture projectionist? There is a vast difference.

A rewinder is a little like a rookie—you have to watch the darn thing to be sure it is in line.

FLICKERS

Projectionist Pete is going around with a furrowed brow these days. No, it is not trouble—exactly. The fact is that he is deep in thought. Movietone is the indirect cause of it. To be more specific, the fader is the cause of it. Pete was deeply intrigued by that delicate and mysterious mechanism which controls the volume of sound. And Pete, being of an inventive turn of mind and being deeply intrigued by the fader which controls sound volume, was inspired with an idea. His idea is to invent one to put on the baby.

Dumb Dolly, unctuous and untutored usherette in a Broadway movie house, was all tired out the other day. The head usher had her looking all over the place for the acoustics. She finally came back and reported somebody must have stolen them.

Great events cast their shadows all around them. We have it on authority that since companionate marriage was invented, a certain projectionist, who is an ardent companionate champion, can't make a satisfactory film splice.

If hot weather and projection booths and love affairs take something vital out of you go to the "Cupid Cobbler" on one of the daily papers. Her business is half-souling people.

Simplex Sam says he has never officially met the girl who lives across the alley from him, but he thinks she is a window dresser. She never pulls down the curtain.

Did you hear about Prudish Prunella? She is in high school, and she refused to work a problem in fractions because the denominator was common.

A straight line is the shortest distance between two pints, but after the first pint but few can walk it.

While you are young is the time to make your fame and fortune. About the only thing that goes strong after it gets old is cheese.